DAM-3059
User's Manual

Beijing ART Technology Development Co., Ltd.

DAM-3059 Module

Introduction

Features

8-CH analog input module

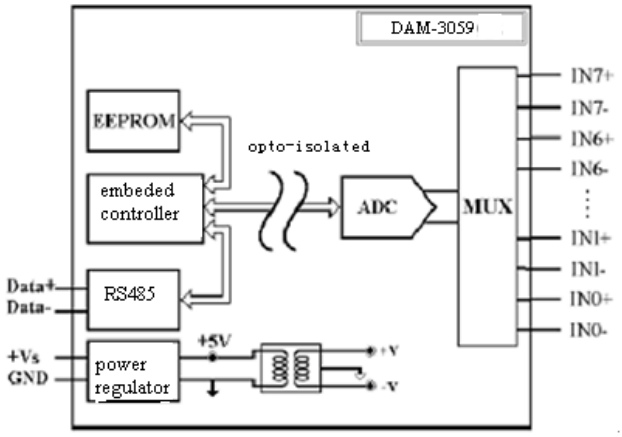
- ✧ Input Type: V, mA
- ✧ Each channel range can be configured independently
- ✧ Channel Input: 6DI, 2SE (default)or 8DI
- ✧ Sampling Rate: 10Hz
- ✧ 16-bit resolution
- ✧ Accuracy: ±0.1%
- ✧ Input Impedance: 8MΩ
- ✧ Zero Drift: 20uV/℃
- ✧ Full Scale Drift: 25ppm /℃
- ✧ CMR @ 50/60Hz: 86dB
- ✧ NMR @ 50/60Hz: 100dB
- ✧ Isolation Voltage: 3000V_{DC}
- ✧ Built-in Watchdog
- ✧ Power Supply: unregulated +10 ~ +30 V_{DC}
- ✧ Power consumption: 1.3W @ 24V_{DC}

Easy to operate

DAM-3059 utility software can help you to select input configuration, set the operating parameter for your process control needed.

Industrial Design

DAM-3059 was designed to use in industrial environment. It can be installed in standard DIN rail inside the cabinet. And it can be powered by unregulated 10~30V_{DC} to meet the various power supplied source in field. It also withstands ambient temperature up to 60℃ and resists the effects of vibration and mechanical shock.



Wiring & Installation

Power supply requirements: unregulated +10 V_{DC} ~ +30 V_{DC}. "+Vs" is a positive, and "GND" is ground. "DATA +" and "DATA-" connect with "DATA +" and "DATA-"(or "A" and "B") of RS-232/RS-485 transformation module, then connect transformation module with computer, do not hot plug carefully. The power indicator flashes after wiring is correct, then you can communication with the host computer.

According to the label directs color to wiring:

+Vs	（R）	Red	DATA+	（Y）	Yellow
GND	（B）	Black	DATA-	（G）	Green

It can connect with DAM-3212, show as the following:

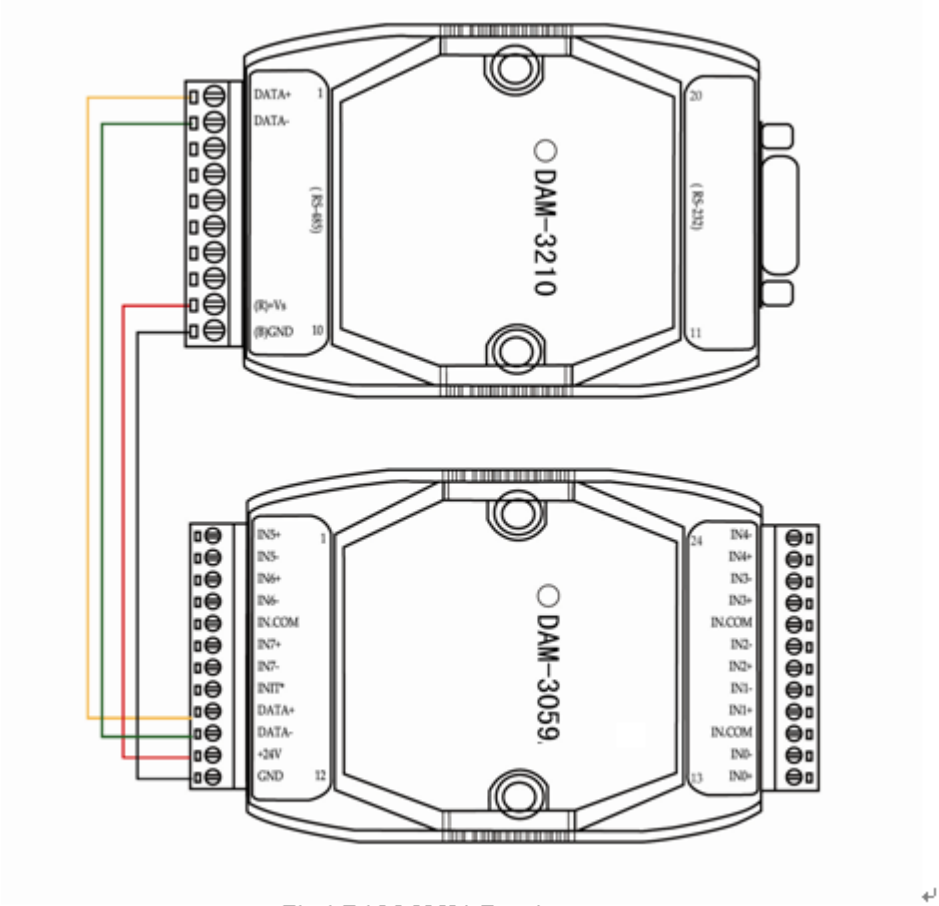


Fig. 1 DAM-3059A Drawing

DAM-3059

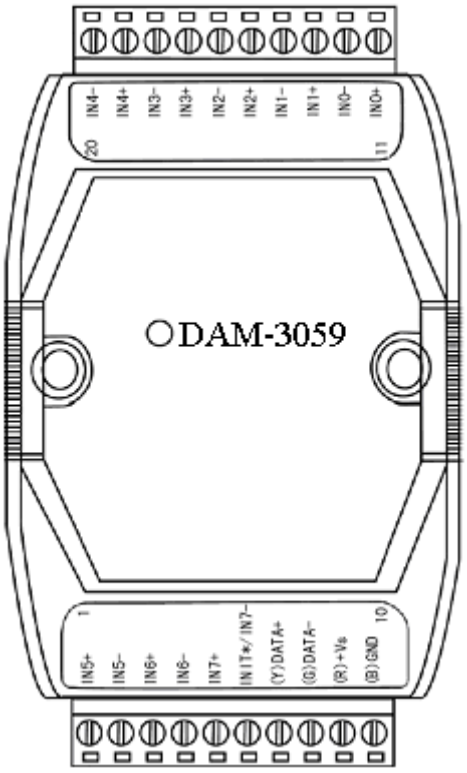


Fig. 1 DAM-3059 Drawing

DAM-3059 can be installed in standard DIN rail inside the cabinet, it also can be installed by stacking mode.

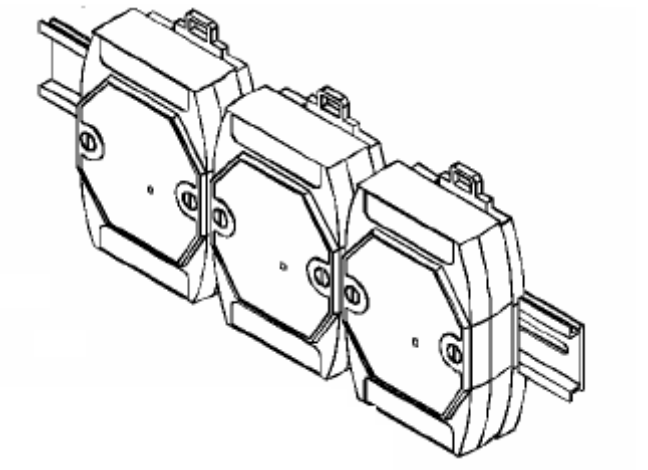


Fig.2 standard DIN installation

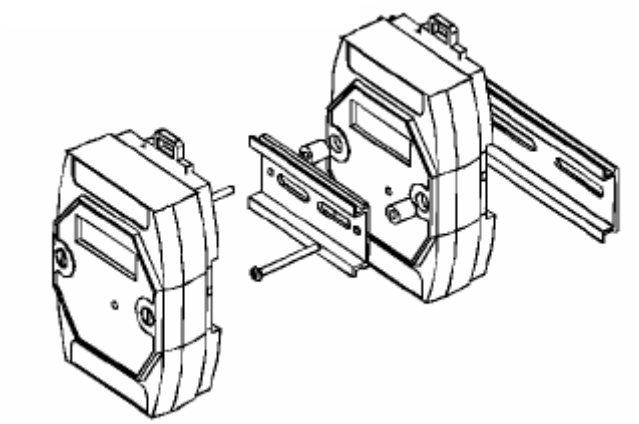


Fig.3 stack installation

Jumper Setting

Jumper JP1 for select the pin INIT*/IN7-

Select 8 differential inputs mode, the pin INIT*/IN7- is set to IN7-

Select INIT* mode, the pin INIT*/IN7- is set to INIT*

Application Wiring

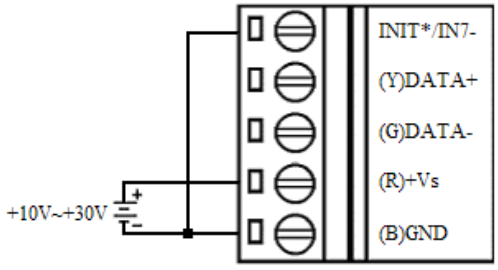
Reset Connection:

Select INIT* mode and shorted the INIT * and GND shorted, add +10 ~ +30 VDC between +Vs and GND, power on, the module indicator quickly flashes three times, power off until the indicator stops flashing, disconnect the INIT * and GND, then reset the module has been completed.

After reset successfully, the module restore the factory default values:

Module Address: 1

Baud Rate: 9600



Analog Input Connection

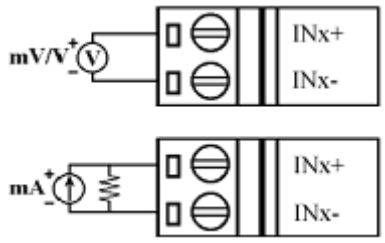


Fig. 4 Analog input (0~5 channel) wiring diagram

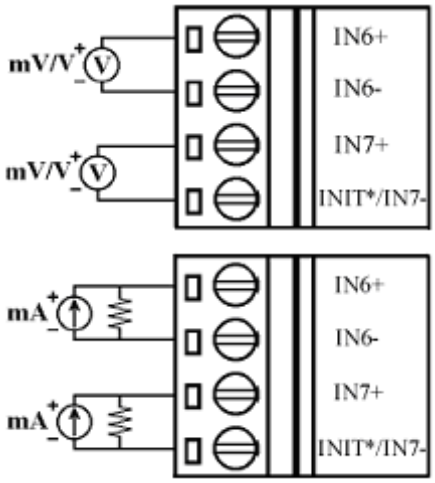


Fig.5 Analog input (6~7 channel) wiring diagram (while the jumper JP1 setting is 8 differential inputs mode)

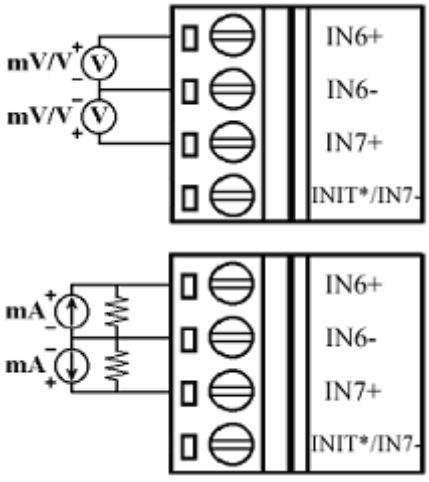


Fig.6 Analog input (6~7 channel) wiring diagram (while the jumper JP1 setting is INIT* mode)

Default Setting

If the module's address or baud rate is wrong, or forget the last modified value, the module can be reverted to default settings. Steps: Short-circuit the "INIT*" and "GND" when there is no power; power-on for 3 seconds, power off, disconnect "INIT*" and "GND". The module is reverted to the default settings.

- Address: 00

- Baud Rate :9600bps
- Noparity
- The serial port default work mode: parity bit: none
  data bits: 8
  stop bit: 1

Code Configuration Table

Baud Rate Configuration Code Table

Code	00	01	02	03	04	05	06	07
Rate	1200	2400	4800	9600	19200	38400	57600	115200

Analog Input Range Configuration Code Table

Signal Type	Range	Code
mV, V, mA	0~10mA	00
	±100mV	03
	±150mV	04
	±500mV	05
	±1V	06
	±2.5V	07
	±5V	08
	±10V	09
	±20mA	0A
	0~20mA	0B
	4~20mA	0C
	0~5V	0D
	0~10V	0E
	0~2.5V	0F

Pin Definition

Pin	Name	Function
1	IN5+	Analog input 5-ch positive port
2	IN5-	Analog input 5-ch negative port
3	IN6+	Analog input 6-ch positive port
4	IN6-	Analog input 6-ch negative port
5	IN7+	Analog input 7-ch positive port
6	INIT*/IN7-	reset pin, connect with(B)GND, then power-on to reset/when differential input, it is the 7-ch negative port
7	(Y)DATA+	RS-485 positive
8	(G)DATA-	RS-485 negative
9	(R)+Vs	DC Power Supply (+),+10~+30V_{DC}

10	(B)GND	DC Power Supply (-)
11	IN0+	Analog input 0-ch positive port
12	IN0-	Analog input 0-ch negative port
13	IN1+	Analog input 1-ch positive port
14	IN1-	Analog input 1-ch negative port
15	IN2+	Analog input 2-ch positive port
16	IN2-	Analog input 2-ch negative port
17	IN3+	Analog input 3-ch positive port
18	IN3-	Analog input 3-ch negative port
19	IN4+	Analog input 4-ch positive port
20	IN4-	Analog input 4-ch negative port